

Natural History Notes from the Royal Indian Marine Survey Steamer 'Investigator,' Commander C. F. Oldham, R. N., commanding.-- Series II., No. 12. *Note on the sound produced by the Ocypode Crab, Ocypoda ceratophthalma.* By SURGEON-CAPTAIN A. R. ANDERSON, B.A., M.B., NATURALIST TO THE INDIAN MARINE SURVEY.

[Received and Read 4th July.]

Although in several Brachyurous Decapod Crustaceans stridulating ridges have been most carefully described and figured, in only one solitary instance can I find any observations regarding the sounds produced by these ridges. Indeed they appear to have derived their designation rather from the resemblance they bear to the stridulating organs of insects than from any stridulating function they themselves had been observed to possess. In this note I venture, therefore, to describe the sound produced by the well-known stridulating organ of *Ocypoda ceratophthalma*, Pallas, a description of which, as well as of the ridges found in such other species of *Ocypoda* as possess them, will be found given by Miers in the Annals and Magazine of Natural History Vol. X, 1882. Dana, in the volume describing the *Crustacea* of the United States Exploring Expedition, writes of the genus *Ocypoda*:—"These species are able to make a sound, by means of a series of minute ridges on the inner surface of the hand, which acts like a rasp against a prominent edge on the second joint of the same pair of legs." He however gives no description of the sound produced. In the Administration Report of the Marine Survey of India for 1891-92, Surgeon-Captain A. Alcock relates his experiences of the musical powers of the red *Ocypoda macrocera*, and with this solitary exception, I am unable to find any record of similar powers having been observed in any other of the Ocypodes.

In *Ocypoda ceratophthalma* the stridulating organ consists of a ridge coarsely striated above, finely striated below, borne on the inner surface of the hand of the larger chela. This ridge is rubbed across a smooth raised ridge on the ischium of the same chela, and by slowly rubbing the opposed ridges together, and placing the crab over the mouth of a wide-necked bottle to act, like the crab's burrow, as a resonator, an exact reproduction of the sound emitted by the crab, during life, can be obtained. One bright hot sunshiny morning in November, as I was walking along the shore of Bingaroo, one of the Lakadive Islands, which is only occasionally visited by the inhabitants of the other islands of the same atoll, I was surprised to hear a loud croaking noise, that appeared to proceed from the edge of the scrub jungle

that covers the island. At first I imagined it must be caused by frogs, so perfectly did it resemble the croaking of these animals. However, on tracing the sound to its source, I discovered that it proceeded from the burrows of the Ocypode crabs which here fringed the beach at high-water mark. These burrows are frequently, in coral sand, very wide at their mouths (6 to 8 ins.), and then taper gradually downwards, so that they act as excellent resonators. The cause of the stridulation of the crabs was by no means apparent, the animals were all lying hidden in their burrows, and several were croaking at the same time, as if in concert.



Natural History Notes from the Royal Indian Marine Survey Steamer 'Investigator,' Commander C. F. Oldham, R. N., commanding.—Series II., No. 13. A New Brachiopod. BY A. ALCOCK, SUPERINTENDENT OF THE INDIAN MUSEUM.

PLATE VIII.

[Received and Read, 4th July.]

Of the *Brachiopoda* of Indian waters but little appears to be known. *Lingula* and *Crania* have been reported from the shallows, and a small species of *Terebratula* has—but not very commonly—been met with off Ceylon in 20–30 fathoms. I myself, in the course of four seasons systematic dredging, 1888–1892, on board the “Investigator,” only once met with a Brachiopod—a minute species of *Terebratula*—dredged in 1891 in the Laccadive Sea, at 865–880 fathoms, on a bottom of *Globigerina* ooze. A certain amount of interest, therefore, attaches to any “finds” in these waters of representatives of this ancient class of animals.

The species described in the sequel is a *Terebratula* of remarkable size, dredged in the Laccadive-Maldive basin, off the island Uligánu of the Northern Maldive atoll, at a depth of 719 fathoms, on a bottom of fine coral sand. The species is represented, unfortunately, only by a dead shell, which however was quite perfect.

TEREBRATULA, Llhwyd.

Terebratula Johannis-Davisi, n. sp., Plate VIII.

Shell pyriform, inequilateral, thin but strong, its surface smooth except for the concentric lines of growth, and microscopically punctate: in colour purple-brown.